<center>**REMARKS**</center>

Claims 1-15, all the claims pending in the application, stand rejected upon informalities and on prior art grounds. Claims 1-5 stand rejected under 35 U.S.C. §101. Applicants respectfully traverse these rejections based on the following discussion. The following paragraphs have been numbered for ease of future reference.

I.   The 35 U.S.C. §112, First Paragraph, Rejection

[0001] Claims 1-15 stand rejected under 35 U.S.C. §112, first paragraph, as based on a disclosure which is not enabling. These rejections are traversed as explained below.

[0002] The Communications assertions that "the metes and bounds of "critical information: is unclear because the criticality of information seems to be subjective; in other words, there is no objective, qualitative, or quantitative evaluation used to access how "critical" information is.

[0003] Applicants note that the claims and the examples in the specification and would allow one of ordinary skill in the art to make practice and use the claimed invention. For the convenience of the Office, Applicants have also attached the printout of an entry from the Department of Defense Dictionary of Military and Associated Terms downloaded from The information was downloaded from (http://web.archive.org/web/20010418011140/www.dtic.mil/doctrine /jel/doddict/data/c/01663.html) on February 28, 2009 reflecting information archived with the Internet Archive on April 13, 2001. Thus, it should be clear that the term "critical information" was easily discernible to those of even ordinary skill in the art.

[0004] The Communication asserts that "[t]he specification does not discuss the possible consideration of factors other than the amount and/or duration of information exposure." (Communication, p. 9, ll. 1-3). However, Applicants draw attention to Table 2 of the Published Application which recites:

$\sum_i e_i d_i$ The term e_i denotes the exposure number of information unit "i",

and d_i denotes its duration. **Each information unit may not be**

equally sensitive. (Published Application, p. 2, Table 2, emphasis added).

[0005] The use of the determined critical or sensitive information is described in the Published Application at, for example paras. 22 and 23. The Published Application further describes how the workflow manager segments the state of the AS that needs to be forwarded in the flow using the targeted AS configuration information. (see for example, Published Application, p. 3, para. 40). Thus, notwithstanding Communication assertions to the contrary, the Published Application defines a fully enabled implementation of Applicants claimed invention.

[0006] Although the Communication further asserts that "the specification does not specify how the additional considerations would combined with said temporarily stored critical information in order to calculate an exposure cost." (Communication, p. 9. ll. 8-10); Applicants respectfully submit that the Published Application describes the use of Analysis Engines in Fig. 5 and at for example, paras. 35-44. The use is recited in the Published Application at, for example, paras. 43-44. Thus, Applicants respectfully submit that the Application is enabled. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

II.   The 35 U.S.C. §112, Second Paragraph, Rejection

[0007] Claims 1-15 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These rejections are traversed as explained below.

[0008] The term "critical information" is well understood and easily discernible by those of ordinary skill in the art by reference to the Department of Defense Dictionary of Military and Associated Terms discussed above.

[0009] Applicants note that the courts have held that "[t]he requirement to 'distinctly' claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles....Only when a claim remains   insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite." *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366, 71 USPQ2d 1081, 1089 (Fed. Cir. 2004).

[0010] In *Bancorp Services, L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1372, 69 USPQ2d 1996, 1999-2000 (Fed. Cir. 2004), the court held that the disputed claim term "surren-der value protected investment credits" not indefinite because "the components of the term have well recognized meanings, which allow the reader to infer the meaning of the entire phrase with reasonable confidence"). See also MPEP 2173.02.

[0011] Applicants respectfully submit that when such an analysis is properly conducted with respect to the claims as a whole rather than in parts, the claims are definite. Attention is drawn to Figs. 3-7 and to, for example, paragraphs 35-47 of the Published Application indicating

these features. Thus, the recited claim terms meets the objective statutory requirements of 35 U.S.C. §112, 2nd.

[0012] In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw this rejection.

III.   The 35 U.S.C. §101 Rejection

[0013] Claims 1-5 stand rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. These rejections are traversed as explained below.

[0014] Claims 1 recites "[a] machine-implemented method for selecting a workflow..." Thus, claim 1 and dependent claims 2-4 are directed to statutory class. Applicants therefore respectfully request withdrawal of this rejection.

VI.   The Prior Art Rejections

[0015] Claims 1-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chan, et al. (U.S. Patent No. 6,889,375), hereinafter referred to as Chan, in view of Hung Chak Kuen Patrick's "Secure Workflow Model," hereinafter referred to as Patrick and further in view of Michael zur Muehlen's: Workflow-Based Process Controlling – Or: What Your Can Measure You Can Control," hereinafter referred to as Muehlen. Applicants respectfully traverse these rejections based on the following discussion.

[0016] Applicants submit that Chan, alone or in combination with Patrick, and/or Muehlen fails to disclose, teach or even suggest at least the features directed to: 1) constructing a set of possible workflows meeting a workflow specification having a predetermined input and a

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required output, using components having defined inputs and outputs; <u>2) calculating an exposure cost measure for each of the possible workflows in the set of possible workflows, said exposure cost measure being based upon, in part, details of critical information that is temporarily stored between processing steps within each of said possible workflows</u>; 3) selecting a target workflow from the constructed set of possible workflows for which the exposure cost measure is calculated to be a minimum, as recited in independent claim 1 and similarly recited in independent claims 6 and 7.

[0017] Chan merely describes a system for application development. The system includes programming entities, which include a workflow and a container. A contract specifies an interaction between at least two programming entities.

[0018] Moreover, the Communication admits that Chan fails to disclose at least the features directed to "2) calculating an exposure cost measure for each of the possible workflows in the set of possible workflows, said exposure cost measure being based upon, in part, details of critical information that is temporarily stored between processing steps within each of said possible workflows. Applicants agree. The Communication attempts to remedy these admitted deficiencies by combining Chan with Patrick.

[0019] Patrick describes Workflow Management Systems used to support many of the day to day workflows in large organizations. Patrick asserts as one of the major problems with workflow management systems is that they often use heterogeneous and distributed hardware and software systems to execute a given workflow giving rise to decentralized security policies and mechanisms that need to be managed. Since security is an essential and integral part of workflows, the workflow management system has to manage and execute the workflows in a

secure way. The prolific use of workflow management systems for critical and strategic applications gives rise to a major concern regarding the threats against integrity, authorization, and availability. Thus, Patrick proposes an authorization model with a set of invariants for workflows from the aspects of agents, events and data, and assertedly proves that if they hold, the workflow execution is secure. Patrick also describes the development of an authorization model based on a multi-layered state machine that separates the various aspects of control in a workflow and portrays it as a multi-layered architecture for analyzing the flow of authorizations.

[0020] The Communication states that Patrick teaches the steps of:

"(b) calculating a exposure measure for each of the possible workflows in the set of possible workflows (**Security Risk Factor – the maximum number of tasks done by any one agent. Essentially the SRF measure the level of risk associated with a set of agents executing a group of inter-dependent tasks; Security Risk factor...is based on evenly distributing the tasks over a set of agents with the condition that all the agents are capable of executing all the tasks and all of them can access the documents with the different privileges needed by each task... We introduce the concept of Security Risk Value and incorporate it into SRF. SRV is a value from 0 to 1.0 that indicates the level of risk. The higher the value, the higher the risk)** [pages 73, 79, 96]" (see Communication, p. 14, ll. 2-11, emphasis in the original).

[0021] Applicants note that independent claim 1 actually recites:

2)   calculating an exposure <u>cost</u> measure for each of the possible workflows in the set of possible workflows, <u>said exposure cost measure being based upon, in part, details of critical information that is temporarily stored between processing steps within each of said possible</u>

workflows"

[0022] Moreover, the claims recite inter-relationships between terms that the Communication appears to ignore. For example, the Communication asserts that Patrick discloses "selecting the constructed set of possible workflows for which the exposure measure is calculated to be a minimum" (Communication, p. 14, ll. 12-16). However, the Communication fails to explain how the Chan-Patrick combination could select anything "for which the exposure measure is calculated to be a minimum" when the Communication admits at p. 15, ll. 10-12 that "[t]he combined teachings of Chan et al. and Patrick do not explicitly teach an exposure cost measure being based upon, in part details of critical information that is temporarily stored between processing steps within each of said possible workflows." Applicants submit that the Office bears the burden of establishing a prima facie case basis for any rejection offered or else must allow the case. The Communication fails to address at least the above-noted inter-relationship among the recited terms and thus fails to establish a prima facie case.

[0023] Moreover, as noted in the Communication, Patrick's SRF merely measures the level of risk associated with a set of agents executing a group of inter-dependent tasks. This is simply a description of a conventional "information wall." Patrick therefore defines the *Security Risk Factor* (SRF) to be the maximum number of tasks done by any one agent." (Patrick, p. 72).

[0024] Patrick notes that agents in an exemplary group have higher privileges and perform more tasks and hence are more knowledgeable about the operation of the organization. Patrick asserts theses agents become crucial to the competiveness of the organization and are seen as a higher risk if they move to another organization or are corrupted. (see Patrick, p. 74, ll. 6-9). Thus, Patrick proposes to manage and control the privileges of the workflow. (Patrick, p.

74, ll. 14-19).

[0025] Patrick therefore suggests assigning a task across as many agents as possible to reduce the SRF or dependence on any one agent. This merely describes the selection of agents in line with the conventional information wall discussed above. Moreover, the Patrick paper admits that computation of an optimal solution based on SRF has exponential complexity. That is, Patrick admits the use of SRF in analyses suffers from problems of exponential explosion. Given the fact that Patrick is not a patent reference and is therefore not assumed to be enabling, Patrick's admissions regarding its problems with exponential explosion highlight the fact that the Communication assumes a fact not established – that Patrick is enabled. Thus, the Communication fails to establish a prima facie case due to reliance on facts not in evidence.

[0026] Moreover, Patrick goes on to define Security Risk Value (SRV) as a "[v]alue from 0 to 1.0 that indicates the level of risk." (see for example, Patrick, p. 96, ll. 11). Interestingly, Patrick also admits at p. 96, ll. 19-20, that "[t]he methodology of calculating SRV for a task is out of the scope of this thesis." Thus, Patrick also admits that it is not an enabling disclosure for calculating the Security Risk Values.

[0027] The Communication appears to ignore these admitted deficiencies of Patrick and asserts that the SRV number maps to the exposure cost measure. Applicants acknowledge that although the Office is not subject to estoppel, it is surely constrained to interpret its own reference consistently with respect to the author's own statements.

[0028] As asserted in the prior Response, the claims and the Specification describe minimizing the exposure cost measure so as to reduce the time information is exposed (Published Application, Fig. 3 and 4). The Communication has offered no <u>enabled</u> alternative that is

consistent with the claims and the Published Application.

[0029] The Communication further admits that neither Chan nor Patrick disclose: 2) calculating an exposure cost measure for each of the possible workflows in the set of possible workflows, said exposure cost measure being based upon, in part, details of critical information that is temporarily stored between processing steps within each of said possible workflows. Applicants agree. However, the Communication attempts to combine Meuhlen with the asserted Chan-Patrick combination to remedy these deficiencies.

[0030] Muehlen merely describes the analysis of automated business processes through the analysis of protocol data as one factor for the use of workflow management systems in organizations. Applicants can discern no indication within Muehlen of a specification for a system or method but merely another research paper that concludes somewhat characteristically that "[t]he active feedback of evaluation data on the modeling of workflow processes is a promising candidate for further research." (Muehlen, p. 76, ll. 9-10).

[0031] Applicants respectfully submit that as non-patent literature, Muehlen has not been examined and is therefore not entitled to the assumption of enablement. No evidence presented by the Communication establishes enablement while statements within the Muehlen reference appear to indicate it is not enabled.

[0032] The Communication asserts that since Muehlen provides measures to evaluate workflow-based processes, (Communication, p. 16, ll. 3) it would have been obvious to combine Muehlen with Chan-Patrick to "calculate the exposure cost of a workflow using the information that is temporarily stored between processing steps, because doing so would enable the selection of the cheapest/fastest/most effective resource that satisfies certain qualification criteria, as

taught by Muehlen [page 72]" (Communication , p. 16, ll. 3-14).

[0033] Applicants respectfully submit that any interpretation offered by the Communication must at least be consistent with the features recited in the claims. Muehlen describes the "cheapest/fastest/most effective <u>resource</u> that satisfies certain qualification criteria." In contrast, Applicants claim 1 recites 3) selecting <u>a target workflow from</u> the constructed set of possible workflows for which the exposure cost measure is calculated to be a minimum.

[0034] Moreover, the Communication appears to ignore the guidance afforded in the Published Application as to the calculation of an exposure cost measure. (see for example, Communication, p. 3, ll. 8-15). Although the Specification is not read into the claim, it is improper to offer an interpretation of the claims that is inconsistent with Applicants' claims and the teachings of the Specification. Thus, Muehlen's cheapest/fastest/most effective analysis is inconsistent with Applicants Published Application which suggest that exposure measure should be reduced with possible <u>increases</u> in resource usage and <u>reduced speed</u>. In fact, Muehlen's academic paper on efficiencies teaches away from reducing the exposure cost measure since in at least some cases, this may reduce resource efficiency.

[0035] The claimed invention, as provided in amended independent claims 1, 6 and 7 contain features, which are patentably distinguishable from the prior art references of record. Specifically, claims

[0036] Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings, and no new matter is being added. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

V.   Formal Matters and Conclusion

[0037] With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims.

[0038] In view of the foregoing, Applicants submit that claims 1-15, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

[0039] Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary. Please charge any deficiencies and credit any overpayments to Attorney's Deposit Account Number 09-0441.

Respectfully submitted,

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